To: DMC office, The University of the South Pacific

Through: The Dean, FSTE

PROJECT COMPLETION REPORT

CROP agency: University of the South Pacific

Implementing Division: School of Engineering and Physics

1. **Project Title:** Development of Rural School Solar Water Pumping Project

2. **Year of funding: 2015-16 Funds received: USD 30,000 (FJD 57,670)**

3. **Summary of Project Achievements/Impact as per approved project purpose and objectives:**

   Please see attached report

4. **Main project outputs and indicators:**

   - Three remote schools have access to clean drinking water.
   - USP students have firsthand experience with real-life renewable energy projects

5. **FICs Affected and Project Beneficiaries:**

   Three schools in Fiji : Namau Schhol, Korotolutolu school and Kubulau School

6. **Recommendations or Lessons learnt:** Clean drinking water is of paramount importance especially in the schools. Availability of WASH facilities will help achieve a number of sustainable goals . Solar water pumping systems should replace all diesel generator based systems in all Pacific Island Countries.

7. **Financial acquittal of all funds received for the project. (Please see attached)**

9. **Acknowledgement:**

We greatly appreciate the financial support provided by the ROC/Taiwan government and also acknowledge the keen participation by the school committees/Headmasters/teachers/students.

10. **Main Contact for Project:**

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P**roject Objectives:**

i. To provide clean drinking water to rural schools using sustainable energy.

ii. To provide USP students practical training in RE technologies.

Background

Access to clean drinking water is a basic human right and one of the Sustainable Development Goals (SDGs). In 2004, 43% of urban population and 51% of rural population in Fiji had access to safe drinking water in Fiji. According to a published reports 99 percent of water in rural areas in Fiji has some form of fecal coliform Water borne diseases are major killers of children under the age of five globally and recent outbreaks of typhoid in Fiji brought home this fact. Clean drinking water helps achieve other SDGs dealing with health, education and gender. Lack of water in schools has also been a cause of frequent closing down of schools or resorting to prohibitively expensive water cartage from town centres.

Availability of sustainable energy tis another of SDGs (#7). Most of the remote schools in Fiji are not connected to the utility grid and survive on diesel based generation of very limited and expensive electricity for their daily needs. Solar PV based water pumping provides a sustainable solution to the challenges faced by these remote schools.

The project funding of USD 30,000 allowed us to establish solar PV water pumping systems in the following schools in Fiji:

1. Namau Public School , Ba , Viti Levu

2. Korotolutolu school , Vanua Levu

3. Kubulau District School, Vanua Levu.

Below are the reports for individual schools:

Namau Public School

This remote school has suffered from water problems for many years forcing students/staff to bring water from home and sometimes use untreated water. According to the Headmistress Ms. Lalita Devi, on many occasions the school had to be closed due to lack of water. The school did have a borehole but the high cost of fuel had left it idle for the past many years.

The Solar water pumping system consists of 940 W of solar panels and a helical pump with a system installed cost of about FJD 12,000. On a typical day, the system is capable of pumping about 10,000 litres of water which is more than sufficient for the school community.

The Namau system was officially launched on 29th October 2015 in the presence of Fiji Ministry of Education representatives, school students, staff & management and community stakeholders. The School Headmistress thanked the USP and the Taiwan government for their support saying " the supply of clean and safe water without any fuel costs is recognized by the community and the benefits will be felt by the future generations of children attending this school". The Senior Education Officer (Ba/Tavua) Mr. Atendra Prasad, speaking on behalf of the Ministry of Education thanked USP and ROC for their support to the efforts made by his ministry. He described the difficulties faced by the school and how at times his department had to arrange water to be carted to school . He was confident that with the availability of clean water, students and staff will no longer be wasting their time on water collection leading to a more efficient education delivery. In his response, Dr. Raturi reiterated USP's commitment for community engagement and sustainable development. He applauded the efforts made by the school staff with the help of Ministry of education in providing excellent educational facilities at the school. He encouraged the students to learn more about renewable energy and congratulated the school management for this proactive approach in looking for the challenges faced. He also thanked the Taiwan government for their continued support.

Korotolutolu School, Vanua Levu

Korotolutolu Primary school students and staff had been facing water problems for a long time and their sole supply has been a spring source, located 5 km away from the school. However, this source dries up in the summer and clogs up during heavy rain while the school's borehole has been inoperative due to the damaged pump and fuel expenses.

The funding from the Taiwan/Republic of China Regional Development programme allowed installation of a a solar water pumping system The Korotolutolu solar water pumping system, costing about FJD 16,000 , is capable of producing 13,000 litres of water daily. This water quantity is enough to cater for the needs of 55 students and three families of teachers who live in the school compound. This work was carried out in collaboration with the Rotary Pacific Water for Life Foundation.

Korotolutolu Headmaster Mr. Suria Sharma, said since the installation of the new system it had greatly eased the school's water problem.The system he said, has survived the onslaught of TC Wilson and contiues to provide service to staff and students.

Kubulau School, Vanua Levu

The third and final project under this funding was conducted at the Kubulau District School, Before the project was implemented, the 100 odd students, mostly boarders and staff depended on inconsistent water supply from a nearby creak. Students including girls had to be escorted regularly to the creek for their bath which was an unsafe and improper arrangement.

The solar PV system at the school consists of 900 W PV panels and has a capacity of producing about 10,000 L per day. The borehole was established by the Mineral Resources Department. The total project cost was FJD 19,600. Some additional work had to be done to place the pump at greater depths when the water level retreated.

This school was badly hit by TC Winson but the solar pumping system survived the onslaught and continues to be the only reliable source of water around that location in Bua.